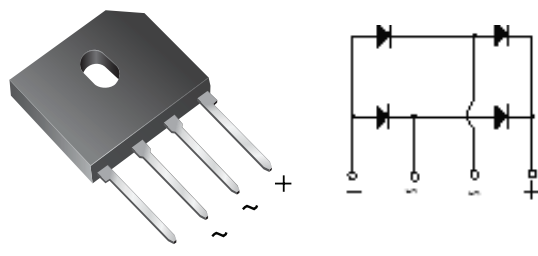


## Glass Passivated Single-Phase Bridge Rectifier



Case Style GBU

### FEATURES

- UL recognition file number E54214
- Ideal for printed circuit boards
- High surge current capability
- High case dielectric strength of 1500 V<sub>RMS</sub>
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

General purpose use in ac-to-dc bridge full wave rectification for monitor, TV, printer, switching mode power supply, adapter, audio equipment, and home appliances applications.

### PRIMARY CHARACTERISTICS

$I_{F(AV)}$	6.0 A
$V_{RRM}$	200 V, 600 V, 800 V
$I_{FSM}$	150 A
$I_R$	5 $\mu$ A
$V_F$	1.05 V
$T_J$ max.	150 °C

### MECHANICAL DATA

**Case:** GBU

Epoxy meets UL 94 V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

**Polarity:** Color band denotes the cathode end

**Mounting Torque:** 10 cm·kg (8.8 inches·lbs) max.

**Recommended Torque:** 5.7 cm·kg (5 inches·lbs)

### MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)

PARAMETER	SYMBOL	G5SBA20	G5SBA60	G5SBA80	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	600	800	V
Maximum RMS reverse voltage	$V_{RWM}$	140	420	560	V
Maximum DC blocking voltage	$V_{DC}$	200	600	800	V
Maximum average forward rectified output current at $T_C = 100$ °C <sup>(1)</sup> $T_A = 25$ °C <sup>(2)</sup>	$I_{F(AV)}$	6.0 2.8			A
Peak forward surge current single sine-wave superimposed on rated load	$I_{FSM}$	150			A
Rating for fusing ( $t < 8.3$ ms)	$I^2t$	93			A <sup>2</sup> s
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150			°C

#### Notes:

(1) Unit case mounted on aluminum plate heatsink

(2) Units mounted on P.C.B with 0.5 x 0.5" (12 x 12 mm) copper pads and 0.375" (9.5 mm) lead length

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	G5SBA20	G5SBA60	G5SBA80	UNIT
Maximum instantaneous forward voltage per diode	3.0 A	$V_F$	1.05			V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_J = 25\text{ }^{\circ}\text{C}$ $T_J = 125\text{ }^{\circ}\text{C}$	$I_R$	5.0 300			$\mu\text{A}$

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	G5SBA20	G5SBA60	G5SBA80	UNIT
Typical thermal resistance	R <sub>θJA</sub> <sup>(2)</sup>	22			°C/W
	R <sub>θJC</sub> <sup>(1)</sup>	3.4			

**Notes:**

(1) Unit case mounted on aluminum plate heatsink

(2) Units mounted on P.C.B with 0.5 x 0.5" (12 x 12 mm) copper pads and 0.375" (9.5 mm) lead length

<b>ORDERING INFORMATION</b> (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
G5SBA60-E3/45	3.565	45	20	Tube
G5SBA60-E3/51	3.565	51	250	Paper tray

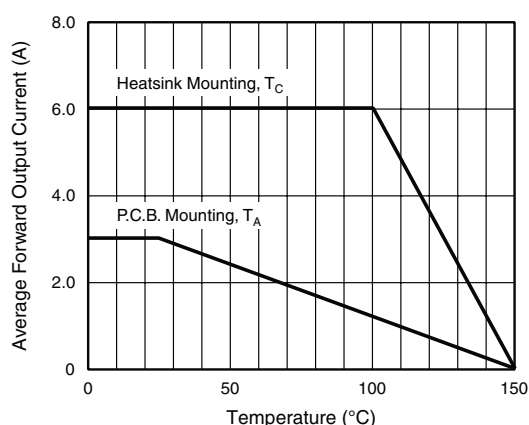
**RATINGS AND CHARACTERISTICS CURVES**( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Figure 1. Derating Curve Output Rectified Current

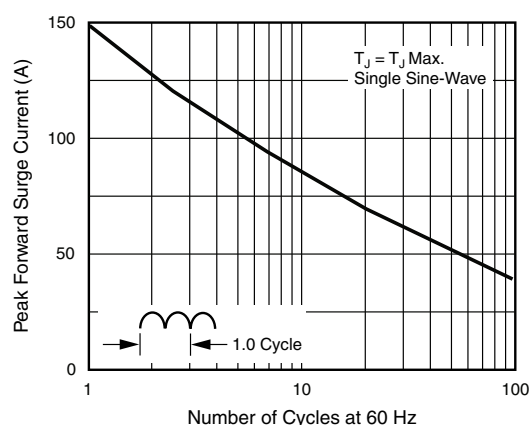


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

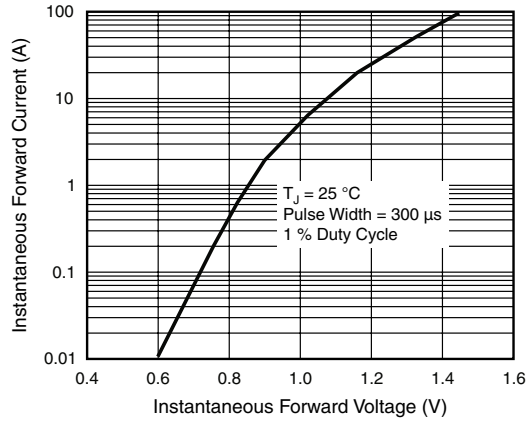


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

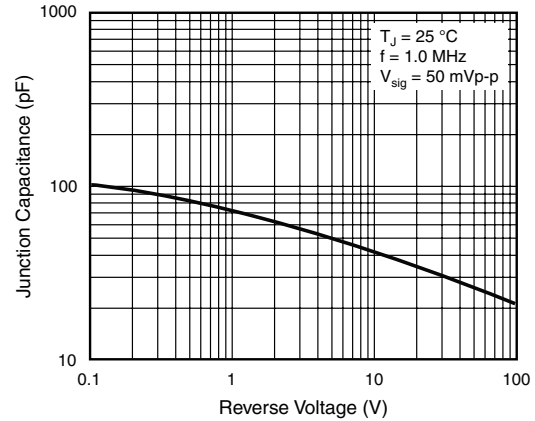


Figure 5. Typical Junction Capacitance Per Diode

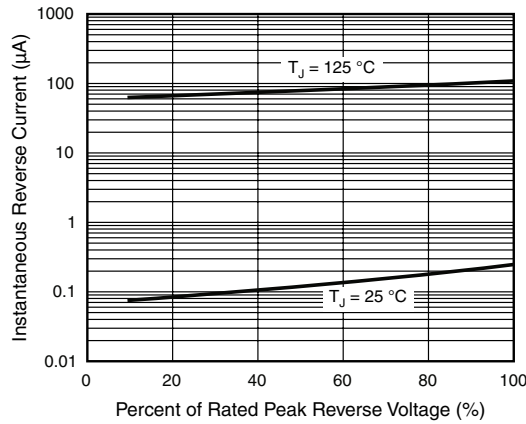


Figure 4. Typical Reverse Leakage Characteristics Per Diode

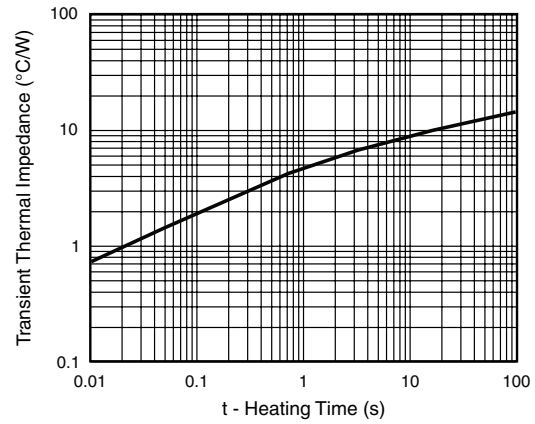
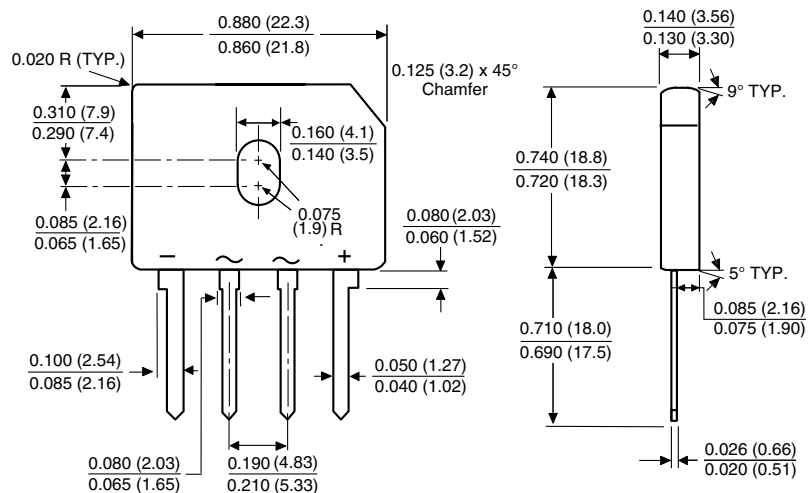


Figure 6. Typical Transient Thermal Impedance

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### Case Type GBU



Polarity shown on front side of case, positive lead by beveled corner



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